

IN THE CLAIMS

1. (currently amended) An ultrasound probe comprising:

a first chamber;

a second chamber; and

a sealing member between the first and second chambers, wherein the second chamber includes only a single connection member, the single connection member being only within the second chamber and having a rigid portion and a flexible portion, the rigid portion forming at least part of the sealing member and wherein the connection member comprises a printed circuit board.

2. (original) An ultrasound probe in accordance with claim 1 wherein the sealing member comprises a wall between the first and second chambers.

3. (original) An ultrasound probe in accordance with claim 1 wherein the first chamber is a dry chamber and the second chamber is a wet chamber.

4. (canceled)

5. (original) An ultrasound probe in accordance with claim 1 wherein the rigid portion comprises a rigid printed circuit board and the flexible portion comprises a flexible printed circuit board.

6. (currently amended) An ultrasound probe in accordance with claim 1 An ultrasound probe comprising:

a first chamber;

a second chamber; and

a sealing member between the first and second chambers, wherein the second chamber includes only a single connection member, the single connection member being only within the second chamber and having a rigid portion and a flexible portion, the rigid portion forming at least part of the sealing member, wherein the rigid portion is configured to connect to a system cable in the first chamber and the flexible portion is configured to connect to a transducer array in the second chamber.

7. (original) An ultrasound probe in accordance with claim 1 wherein the rigid portion is configured to connect to a system cable in the first chamber and the flexible portion is configured to connect to a transducer array in the second chamber, the transducer array provided as part of a scan head configured to move within the second chamber.

8. (original) An ultrasound probe in accordance with claim 1 wherein the rigid portion is integrally formed with the sealing member.

9. (original) An ultrasound probe in accordance with claim 1 wherein the rigid portion is sealingly engaged with the sealing member.

10. (original) An ultrasound probe in accordance with claim 1 further comprising an interconnection member to connect the rigid portion to a system cable within the first chamber.

11. (previously presented) An ultrasound probe in accordance with claim 1 wherein the sealing member comprises at least one opening.

12. (original) An ultrasound probe in accordance with claim 1 wherein the first and second chambers are formed in a unitary construction.

13. (original) An ultrasound probe in accordance with claim 1 wherein the first and second chambers are formed in a modular construction.

14. (original) An ultrasound probe in accordance with claim 1 wherein the ultrasound probe is configured to operate in at least one of a 1D, 1.25D, 1.5D, 1.75D and 2D mode of operation.

15. (original) An ultrasound probe comprising:

a dry chamber having drive means for mechanically controlling at least one transducer and communication means for electrically controlling the at least one transducer; and

a wet chamber having a connection member formed of a rigid portion and a flexible portion, the rigid portion forming at least part of a wall between the wet and dry chambers and configured to connect to the communication means, and the flexible portion configured to connect to the at least one transducer.

16. (original) An ultrasound probe in accordance with claim 15 wherein the communication means comprises a system cable.

17. (original) An ultrasound probe in accordance with claim 15 wherein the drive means comprises a motor and gear arrangement.

18. (original) An ultrasound probe in accordance with claim 15 wherein the connection member further comprises a printed circuit board.

19. (original) An ultrasound probe in accordance with claim 15 wherein the dry and wet chambers are configured to connect in a modular arrangement.

20. (previously presented) A connection member for an ultrasound probe, the connection member comprising:

a flexible portion within only a wet chamber configured to connect to at least one transducer; and

a rigid portion forming at least part of a sealing member between the wet chamber and a dry chamber, the rigid portion configured to connect to a system cable in the dry chamber, the flexible and rigid portions being a single member.

21. (original) A connection member in accordance with claim 20 wherein the flexible portion and rigid portion each comprise a printed circuit board.

22. (previously presented) A method for controlling an ultrasound probe, the method comprising:

communicating between at least one transducer array and a host system via a connection member, the connection member formed of a rigid portion and a flexible portion that form a single member, the flexible portion being entirely within a wet chamber and configured to connect to the at least one transducer array, the rigid portion forming at least part of a wall between a the wet chamber having the at least one transducer array therein and a dry chamber having a system cable therein, the rigid portion configured to connect to the system cable, with the system cable connected to the host system; and

controlling elements of the at least one transducer array with the communicating.

23. (original) A method in accordance with claim 22 wherein the connection member comprises a printed circuit board.